3.5" LCD HDMI Display

Model: B0106

VARIATIONS

B010601: Display
B010602: Display with 16G preloaded SD card

INTRODUCTION

UCTRONICS B0106 is a 3.5" display with HDMI interface and Raspbian touchscreen support. It's designed for Raspberry Pi but also serves as a general-purpose compact HDMI display and an alternative to those large ones.

SPECIFICATION

Model number:

B010601, B010602(with 16g preloaded SD card)

Display

3.5" (diagonal)

Native resolution

480×320 pixels

Video Transmission Interface

HDMI

HDMI input support

480×320 ~ 1920×1080 (scaled)

Power Input

Micro USB or GPIO

Dimensions

2.20"x3.37" (55.98mm x 85.60mm)

Audio

3.5mm audio jack (HDMI audio split)

Touch Screen Support

Raspbian (via SPI interface)

HARDWARE INSTALLATION

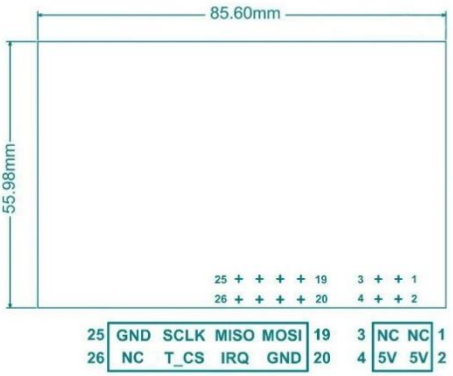

Figure 1

Figure 2

The **Figure 1** shows the display module pin out and dimension. Connect the 3.5-inch HDMI LCD to the Raspberry Pi board like the **Figure 2** shows

- **Step1** Align the pin 1 of the edge connector between the LCD display and Raspberry pi board
- **Step2** Connect the HDMI interface with the HDMI adapter board.
- **Step3** Power on the Raspberry Pi board

Note:

1.Please unplug the HDMI connector before unplugging the screen from the GPIO port.
2. You can push the on-board button near the micro USB port to **rotate the screen** / **turn off the backlight**

DOWNLOAD AND INSTALL DRIVER

The driver includes the settings of the Raspbian OS resolution and touch screen support. If you have B010602, The LCD driver has been already installed in the Micro SD card shipped with the bundle kit that includes a Micro SD card. Otherwise users have to install the driver manually with the following steps for a clean system. Make sure the SD card you choose to install the driver has no quality problem. When downloading and installing the driver, please do not turn off the power.

The online version of this tutorial where you can copy and paste the code is available at:

```
https://www.uctronics.com/download/Amazon/B0106.pdf
```

- Step1 Expand the Micro SD card

```
sudo raspi-config
```

then choose
`Advanced Operations` -> `Expand Filesystem` and hit `Yes`. Then go to `Finish`

And you need to run

```
sudo reboot
```

to reboot your Raspberry Pi.

- Step2 Update your Raspberry Pi system

```
sudo apt-get update
```

- Step3 Download the driver package

```
sudo git clone https://github.com/UCTRONICS/UCTRONICS_LCD35_HDMI_RPI.git
```

- Step4 Come in the UCTRONICS_LCD35_HDMI_RPI

```
cd UCTRONICS_LCD35_HDMI_RPI
```

- Step5 Get run permissions

```
sudo chmod +x UCTRONICS_hdmi_backup
sudo chmod +x UCTRONICS_hdmi_install
sudo chmod +x UCTRONICS_hdmi_restore
```

- Step6 Backup data

```
sudo ./UCTRONICS_hdmi_backup
```

- Step7 install the UCTRONICS LCD35 HDMI driver

```
sudo ./UCTRONICS_hdmi_install
```

Wait for 2~3 minutes, and the system will be installed and restarted automatically.

If you want to roll back to the pre-installation system, you can use the below command

```
sudo ./UCTRONICS_hdmi_restore
```

If you don't want to run those commands to install the LCD driver, we also provide ready-to-use system image file "UCTRONICS_LCD35_HDMI.img". For display with UC-558 in the back (newer revisions),

```
http://uctronics.oss-us-west-1.aliyuncs.com/LCD35/image/UCTRONICS_LCD35_HDMI_UC558.img
```

For those earlier than 558 (like UC-430), please refer to:

```
http://uctronics.oss-us-west-1.aliyuncs.com/LCD35/image/UCTRONICS_LCD35_HDMI.img
```

Check the following link to install the system image to the SD card:

```
https://www.raspberrypi.org/documentation/installation/installing-images/
```

ADD FEATURES

1. Install calibration software

```
cd UCTRONICS_LCD35_HDMI_RPI
sudo unzip Xinput-calibrator_0.7.5-1_armhf.zip
cd xinput-calibrator_0.7.5-1_armhf/
sudo dpkg -i -B xinput-calibrator_0.7.5-1_armhf.deb
```

2. Install virtual keyboard

- **Step1** Execute the following commands to install the corresponding software

```
sudo apt-get update
sudo apt-get install matchbox-keyboard
sudo nano /usr/bin/toggle-matchbox-keyboard.sh
```

- **Step2** Copy the following contents to toggle box - keyboard. sh, save the exit

```
#!/bin/bash
#This script toggle the virtual keyboard
PID=pidof matchbox-keyboard
if [ ! -e $PID ]; then
killall matchbox-keyboard
else
matchbox-keyboard -s 50 extended&
fi
```

- **Step3** Execute the following command

```
sudo chmod +x /usr/bin/toggle-matchbox-keyboard.sh
sudo mkdir /usr/local/share/applications
sudo nano /usr/local/share/applications/toggle-matchbox-keyboard.desktop
```

- **Step4** Copy the following contents to toggle - matchbox - keyboard. Desktop, save exit

```
[Desktop Entry]
Name=Toggle Matchbox Keyboard
Comment=Toggle Matchbox Keyboard`
Exec=toggle-matchbox-keyboard.sh
Type=Application
Icon=matchbox-keyboard.png
Categories=Panel;Utility;MB
X-MB-INPUT-MECHANSIM=True
```

- **Step5** To perform the following command, note that this step must use the "PI" user permission, and if the administrator privileges are used, the file will not be found

```
nano ~/.config/lxpanel/LXDE-pi/panels/panel
```

- Step6 Find similar commands (different versions of ICONS may differ)

```
Plugin {
type = launchbar
Config {
Button {
id=lxde-screenlock.desktop
}
Button {
id=lxde-logout.desktop
}
}
```

- Step7 Add the following code to add a Button item

```
Button {
id=/usr/local/share/applications/toggle-matchbox-keyboard.desktop
}
```

- Step8 To restart the system with the following command, you can see a virtual keyboard icon in the top left corner

```
sudo reboot
```

ADD NEW ICON TO DESKTOP

If it's just a folder, add it directly to the desktop.
If it is an executable, follow these steps:

- Step1: choose the Directory Tree -> / -> usr -> share ->applications folder
- Step2: choose an icon you want to link
- Step3: choose edit -> create link... ->Desktop ->OK

CONTACT US

If you need any further support, feel free to contact us.

Website: http://www.uctronics.com

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